

P **Arctium lappa**

Common Name(s)

Burdock, Gobo, Great Burdock

How Used

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Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
7	(-)-ARCTIGENIN	Fruit	--	--		
0	(4E,6E)-4,6-TETRADECADIEN-8,10,12-TRIYN-1,3-DIYL-DIACETATE	Plant	--	--		
0	(4E,6E,12E)-4,6,12-TETRADECADIEN-8,10,12-TRIYN-1,3-DIYL-DIAC	Plant	--	--		
0	(4E,6Z)-4,6,TETRADECADIEN-8,10,12-TRIYN-1,3-DIYL-DIACETATE	Plant	--	--		
0	(4E,6Z,12E)-4,6,12-TETRADECADIEN-8,10,12-TRIYN-1,3-DIYL-DIAC	Plant	--	--		
0	1,11-TRIDECADIENE	Plant	--	--	Pedersen, M.	1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	1,11-TRIDECADIENE-3,5,7,9-TETRAYNE	Plant	--	--		
0	1,11-TRIDECADIENE-3,5,7,9-TETRAYNE	Root	--	15		
0	1,2-EPOXY-TRIDEC-1-ENE-5,7,9,11-TETRAYNE	Root	--	--	Jim Duke's personal files.	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	1,2-EPOXY-TRIDEC-TRANS-3-ENE-5,7,9-TRIYNE	Root	--	--		Jim Duke's personal files.
0	1,3,1,1-TRIDECATRIENE	Plant	--	--		
0	1,3,11-TRIDECATRIENE-5,7,9-TRIYNE	Plant	--	2		
0	1-TRIDECENE-3,5,7,9,11-PENTAYNE	Root	--	11		
0	2-ALKYL-3-METHOXYPYRAZINES	Root	--	--	Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.	
0	2-METHOXY-3-METHYL PYRAZINE	Root	--	--		
0	2-METHOXY-3-PYRAZINE	Root	--	--		
0	2-METHYL-BUTYRIC-ACID	Root	--	--		Jim Duke's personal files.
0	2-METHYL-PROPIONIC-ACID	Root	--	--		Jim Duke's personal files.
0	3,5,7,9-TETRAYNE	Plant	--	--	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.	
0	3-HEXENOIC-ACID	Root	--	--	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	3-OCTENOIC-ACID		Root --	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	5'-(1-PROPYNYL)-2,2'-BITHIENYL-5-YL...		Plant --	--		
0	5,7,9-TRIYNE		Plant --	--		Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	9(10)-DEHYDROFUKINONE		Leaf --	--		Jim Duke's personal files.
16	ACETIC-ACID		Plant --	--		
3	ALANINE	Root 250	1250	-1.0791749981456504	USDA's Ag Handbook 8 and sequelae)	
10	ALPHA-AMYRIN		Plant --	--		Jim Duke's personal files.
10	ALPHA-AMYRIN		Leaf --	--		
2	ALPHA-AMYRIN-ACETATE		Plant --	--		Jim Duke's personal files.
0	ALPHA-GUAIENE		Root --	--		Jim Duke's personal files.
5	ALUMINUM	Root 54	231	-0.18853557796129974		

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	APLOTAXENE	Root --	--		Jim Duke's personal files.	
0	APLOTAXENE	Plant --	--			
0	ARCTIC-ACID	Plant --	--			
0	ARCTIC-ACID-B	Root --	--		Jim Duke's personal files.	
0	ARCTIC-ACID-B-METHYL-ESTER	Root --	--		Jim Duke's personal files.	
0	ARCTIC-ACID-C	Root 0.1	0.1		Jim Duke's personal files.	
22	ARCTIGENIN	Seed 165.5	166.6		Jim Duke's personal files.	
22	ARCTIGENIN	Fruit --	--		Jim Duke's personal files.	
22	ARCTIGENIN	Plant --	--			
0	ARCTIGENIN-4-BETA-D-GLUCOPYRANOSIDE	Plant --	--		J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.	
0	ARCTIGENIN-4-O-GLUCOSIDE	Fruit --	--		Jim Duke's personal files.	
0	ARCTIGNAN-A	Fruit 125	125		Jim Duke's personal files.	
0	ARCTIGNAN-B	Fruit 150	150		Jim Duke's personal files.	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	ARCTIGNAN-C	Fruit 140	140			Jim Duke's personal files.
0	ARCTIGNAN-D	Fruit 250	250			Jim Duke's personal files.
0	ARCTIGNAN-E	Fruit 270	270			Jim Duke's personal files.
4	ARCTIIN	Seed 11.7	30000			Jim Duke's personal files.
4	ARCTIIN	Fruit --	--			Jim Duke's personal files.
4	ARCTIIN	Plant --	--			
0	ARCTINAL	Root 0.2	0.2			
0	ARCTINAL	Plant --	--			
0	ARCTINOL	Plant --	--			
0	ARCTINOL	Root --	--		Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.	
0	ARCTINOL-A	Root 0.1	0.1			Jim Duke's personal files.
0	ARCTINOL-B	Root 0.3	0.3			Jim Duke's personal files.

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	ARCTINONE			Root --	--	Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	ARCTINONE			Plant --	--	
0	ARCTINONE-A			Root 3	3	Jim Duke's personal files.
0	ARCTINONE-A-ACETATE			Root --	--	Jim Duke's personal files.
0	ARCTINONE-ACETATE			Plant --	--	
0	ARCTINONE-B			Root --	--	Jim Duke's personal files.
0	ARCTIOL			Leaf --	--	
4	ARCTIOPICRIN			Leaf --	--	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	ARCTIUM-ACIDIC-XYLAN			Plant --	--	Jim Duke's personal files.
0	ARCTIUM-LAPPA-ANTIMUTAGEN			Root 90	90	Jim Duke's personal files.
0	ARCTIUM-LAPPA-SESQLIGNAN-AL-D			Fruit --	--	Jim Duke's personal files.

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	ARCTIUM-LAPPA-SESQUILIGNAN-AL-F	Fruit	--	--		Jim Duke's personal files.
0	ARCTIUM-XYLOGLUCAN-HC-II-B	Plant	--	--		Jim Duke's personal files.
14	ARGININE	Root	1050	5250	-0.2760103779139148	USDA's Ag Handbook 8 and sequelae)
112	ASCORBIC-ACID	Root	20	85	-0.5973838006253391	
0	ASH	Leaf	8200	35600	-1.466792613638666	Wealth of India.
0	ASH	Root	7990	34000	-0.9582876583301422	
3	ASPARTIC-ACID	Root	1770	8850	-0.1433959040036098	USDA's Ag Handbook 8 and sequelae)
51	ATROPINE	Root	0.3	30	1	Jim Duke's personal files.
0	BENEDICTINOLIDE	Leaf	--	--		
24	BENZALDEHYDE	Root	--	--		
9	BETA-AMYRIN	Plant	--	--		Jim Duke's personal files.
9	BETA-AMYRIN	Leaf	--	--		
4	BETA-AMYRIN-ACETATE	Plant	--	--		Jim Duke's personal files.
53	BETA-CAROTENE	Root	11	45	-0.148681458601344	
5	BETA-ELEMENE	Root	--	--		Jim Duke's personal files.
13	BETA-EUDESROL	Leaf	--	--		

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
47	BETA-SITOSTEROL	Plant --	--			Jim Duke's personal files.
0	BIS-5',5'-ARCTIGENIN	Seed 2.3	2.3			Jim Duke's personal files.
6	BUTYRIC-ACID	Plant --	--			
102	CAFFEIC-ACID	Root 2500	2500	0.16650294770473825		
28	CALCIUM	Root 1723	7330	-0.00797338977234112		
0	CARBOHYDRATES	Root 200925	855000	0.32037194412900694		
31	CARYOPHYLLENE	Root --	--			Jim Duke's personal files.
77	CHLOROGENIC-ACID	Root --	--			
24	CHROMIUM	Root 0.5	2	-0.1613147228789458		
0	CLOVENE	Root --	--			Jim Duke's personal files.
0	CNICINOLIDE	Leaf --	--			
2	COBALT	Root 3	12	-0.28474799428518266		
12	COPPER	Root 29	29	1.9129739707626465	Chen, H.C. and Lin, S.M. 1988. Determination of Mineral Elements in Certain Crude Drugs (Part 1), Kaohsiung J. Med. Sci., 4: 259-272.	
2	COSTIC-ACID	Plant --	--			

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
2	COSTIC-ACID	Root	--	--		
2	CYPERENE	Root	--	--		Jim Duke's personal files.
2	CYSTINE	Root	60	300	-1.2393365913901333	USDA's Ag Handbook 8 and sequelae)
5	DAUCOSTEROL	Seed	170.6	170.6	1.3994486472112773	Jim Duke's personal files.
1	DECAN-1-AL	Root	--	--		Jim Duke's personal files.
4	DEHYDROCOSTUS-LACTONE	Plant	--	--		
4	DEHYDROCOSTUS-LACTONE	Root	--	--		Jim Duke's personal files.
0	DEHYDRODIHYDROCOSTUS-LACTONE	Root	--	--		Jim Duke's personal files.
0	DEHYDRODIHYDROCOSTUS-LACTONE	Plant	--	--		
0	DEHYDROFUKINONE	Leaf	--	--		
0	DEHYDROFUKINONE	Plant	--	--		
1	DESMUTAGENIC FACTOR	Root	146	146		Jim Duke's personal files.
0	DIHYDROAPLOTAXENE	Root	--	--		Jim Duke's personal files.
0	EO	Leaf	285	285	-0.9895505643256359	Wealth of India.
0	EO	Root	600	7500	-0.3015226969562038	Wealth of India.
0	EREMOPHILENE	Leaf	--	--		

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	FAT		Fruit 150000	180000	1.6501237791645091	
0	FAT		Leaf 1300	8335	-0.9590187163643392	Wealth of India.
0	FAT		Root 1645	7000	-0.5295695632589758	
15	FIBER		Root 19400	97000	0.19738976012277715	
15	FIBER		Leaf 20000	94700	-0.8264904309689535	Wealth of India.
0	FIBER(CRUDE)		Root --	72000	-1.1616741196232196	
0	FIBER(DIETARY)		Root --	700000	3.29347609665689	
8	FRUCTOSE		Root --	--		Jim Duke's personal files.
0	FUKINANOLIDE		Leaf --	--		
0	FUKINONE		Leaf --	--		
0	FUKIONE		Leaf --	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
22	GABA		Root --	25	-0.7148251719310679	Wealth of India.
0	GAMMA-GUANIDINO-N-BUTYRIC-ACID		Root 25	25		

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	GERMACRANOLIDE	Fruit	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
7	GLUCOSE	Root	--	--		Jim Duke's personal files.
8	GLUTAMIC-ACID	Root	1570	7850	-0.6250548944791179	USDA's Ag Handbook 8 and sequelae)
12	GLYCINE	Root	310	1550	-0.9327345082827507	USDA's Ag Handbook 8 and sequelae)
0	HEPTADEC-1-ENE	Root	--	--		Jim Duke's personal files.
0	HEPTADECA-1-CIS-8-CIS-15-TRIENE-11,13-DIYNE	Root	--	--		Jim Duke's personal files.
0	HEPTAN-1-AL	Root	--	--		Jim Duke's personal files.
0	HEX-2-EN-1-AL	Root	--	--		Jim Duke's personal files.
0	HEX-3-EN-1-AL	Root	--	--		Jim Duke's personal files.
0	HEX-3-EN-1-OIC-ACID	Root	--	--		Jim Duke's personal files.
7	HISTIDINE	Root	310	1550	-0.235775973025123	USDA's Ag Handbook 8 and sequelae)

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
19	INULIN	Root 94000	500000	0.9709459983314757		
6	IRON	Root 35	147	-0.22809300347724715		
4	ISOCHLOROGENIC-ACID	Leaf --	--		Wealth of India.	
0	ISOLAPPAOL-C	Seed --	--		Jim Duke's personal files.	
0	ISOLAPPAOLA	Seed --	--		Jim Duke's personal files.	
0	ISOLAPPAOLA	Fruit 50	50		Jim Duke's personal files.	
3	ISOLEUCINE	Root 300	1500	-1.026448865036451	USDA's Ag Handbook 8 and sequelae)	
5	ISOVALERIC-ACID	Plant --	--			
0	KILOCALORIES	Root 720	3790	0.9325990878892336	Father Nature's Farmacy: The aggregate of all these three-letter citations.	
0	LAPPANAESTHIN	Seed --	--			
0	LAPPANESTHIN	Seed --	--		Wealth of India.	
0	LAPPAOL-A-THRU-H	Plant --	--			
0	LAPPAOL-B	Seed --	--			
0	LAPPAOL-C	Fruit 15	15		Jim Duke's personal files.	
0	LAPPAOL-C	Seed --	--			
0	LAPPAOL-D	Seed --	--			

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	LAPPAOL-E	Seed --	--			
0	LAPPAOL-E	Fruit 60	60		Jim Duke's personal files.	
0	LAPPAOL-F	Seed 2.3	2.3			
0	LAPPAOL-F	Fruit 60	60		Jim Duke's personal files.	
0	LAPPAOL-H	Seed --	--			
0	LAPPAOLA	Fruit 100	100		Jim Duke's personal files.	
0	LAPPAOLA	Seed --	--		Jim Duke's personal files.	
0	LAPPAPHEN-A	Root --	--		Jim Duke's personal files.	
0	LAPPAPHEN-A	Plant --	--			
0	LAPPAPHEN-B	Plant --	--			
0	LAPPAPHEN-B	Root --	--		Jim Duke's personal files.	
0	LAPPAURIC-ACID	Plant --	--			
0	LAPPAURIN	Seed --	--		Wealth of India.	
7	LAURIC-ACID	Plant --	--			

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
7	LAURIC-ACID		Root --	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
2	LEUCINE		Root 320	1600	-1.5972475612886774	USDA's Ag Handbook 8 and sequelae)
13	LIGNIN		Plant --	--		
27	LINOLEIC-ACID		Fruit 103500	124200	1.3968737201405899	Wealth of India.
0	LINOLENIC-ACID		Fruit 6000	7200	0.057806087658539305	Wealth of India.
21	LUPEOL		Leaf --	--		
21	LUPEOL		Plant --	--		Jim Duke's personal files.
2	LUPEOL-ACETATE		Plant --	--		Jim Duke's personal files.
4	LYSINE		Root 670	3350	-0.3553603353392198	USDA's Ag Handbook 8 and sequelae)
65	MAGNESIUM		Root 1262	5370	1.4943915864476263	
14	MANGANESE		Root 1.4	6	-0.47422778363505214	
4	MATAIRESINOL		Seed 170.6	170.6		Jim Duke's personal files.
4	MATAIRESINOL		Fruit 60	350		Jim Duke's personal files.

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
4	MATAIRESINOL	Plant --	--			
1	MERCURY	Root 1.27	1.27	4.056631483285861	Chen, H.C. and Lin, S.M. 1988. Determination of Mineral Elements in Certain Crude Drugs (Part 1), Kaohsiung J. Med. Sci., 4: 259-272.	
15	METHIONINE	Root 90	450	-1.0886471756957197	USDA's Ag Handbook 8 and sequelae)	
0	METHYL-ARCTATE-B	Plant --	--			
3	MUCILAGE	Root 11750	120000	-0.2513892222400114		
3	MUCILAGE	Plant 50000	120000	-0.25051722911671365	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.	
6	MYRISTIC-ACID	Plant --	--			
0	NEOARC-B	Seed --	--		Jim Duke's personal files.	
0	NEOARCTIN-B	Seed 38	38		Jim Duke's personal files.	
39	NIACIN	Root 3	13	-1.079268462705004		
0	OCT-2-EN-1-AL	Root --	--		Jim Duke's personal files.	
0	OCT-3-EN-1-OIC-ACID	Root --	--		Jim Duke's personal files.	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
18	OLEIC-ACID	Fruit	30000	36000	-0.20328110195358376	Wealth of India.
13	PALMITIC-ACID	Fruit	10500	12600	-0.16938025724372155	Wealth of India.
13	PALMITIC-ACID	Root	--	--		Jim Duke's personal files.
0	PECTINESTERASE	Leaf	--	--		Wealth of India.
0	PENTADEC-1-ENE	Root	--	--		Jim Duke's personal files.
0	PEROXIDASE	Leaf	--	--		Wealth of India.
0	PETASITALONE	Leaf	--	--		
0	PETASITOLONE	Leaf	--	--		
2	PHENYL-ACETALDEHYDE	Root	--	--		
7	PHENYLALANINE	Root	330	1650	-1.1170286109180518	USDA's Ag Handbook 8 and sequelae)
4	PHOSPHORUS	Root	1027	4370	0.14974951763203476	
1	PHYTOL	Leaf	--	--		
2	PHYTOSTEROLS	Root	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	POLYACETYLENES	Root	10	20		Wealth of India.
0	POLYGALACTURONASE	Leaf	--	--		Wealth of India.

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	POLYPHENOL-OXIDASE	Leaf --	--			Wealth of India.
30	POLYPHENOLS	Root 19000	36500	1	Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.	
14	POTASSIUM	Root 3948	16800	0.07477700255119245		
0	PROLINE	Root 520	2600	0.43323535572821265	USDA's Ag Handbook 8 and sequelae)	
6	PROPIONIC-ACID	Plant --	--			
0	PROTEIN	Root 24910	106000	-0.13939391839403442		
0	PROTEIN	Leaf 32000	140150	-0.7152273911894512	Wealth of India.	
0	PSEUDOTARAXASTEROL	Plant --	--		Jim Duke's personal files.	
0	PSEUDOTARAXASTEROL-ACETATE	Plant --	--		Jim Duke's personal files.	
0	PSI-TARAXASTEROL	Leaf --	--			
15	RIBOFLAVIN	Root 0.8	3.4	-0.14761901787013534		
60	SELENIUM	Root 0.3	1.4	-0.26286169402261483		
1	SERINE	Root 250	1250	-1.1895044313950447	USDA's Ag Handbook 8 and sequelae)	
0	SESQUILIGNANS	Plant --	--		J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.	

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4	SILICON	Root 5.3	22.5	-0.23954668838760487		
0	SITOSTEROL	Root --	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.	Wealth of India.
1	SODIUM	Root 357	1520	0.1949623126900184		
5	STARCH	Root 28200	120000	-0.818804895582863		
8	STEARIC-ACID	Plant --	--			
8	STEARIC-ACID	Root --	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.	
0	STEROLS	Root 200	200		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.	Wealth of India.
12	STIGMASTEROL	Plant --	--		Jim Duke's personal files.	
12	STIGMASTEROL	Root --	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.	Wealth of India.
0	SUGARS	Root 35250	150000	0.44638269230228217		
2	TARAXASTEROL	Leaf --	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.	Wealth of India.
2	TARAXASTEROL	Plant --	--		Jim Duke's personal files.	
2	TARAXASTEROL-ACETATE	Leaf --	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.	Wealth of India.
2	TARAXASTEROL-ACETATE	Plant --	--		Jim Duke's personal files.	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	TARAXASTEROL-PALMITATE	Leaf	--	--		Jim Duke's personal files.
0	TETRADECA-TRANS-4-CIS-6-DIENE-8,12-DIYNE-1,3-DIOL-DIACETATE	Root	--	--		Jim Duke's personal files.
0	TETRADECA-TRANS-4-CIS-6-TRANS-12-TRIENE-8,10-DIYNE-1,3-DIOL-DIACETATE	Root	--	--		Jim Duke's personal files.
0	TETRADECA-TRANS-4-TRANS-6-DIENE-8,10,12-TRIYNE-1,3-DIOL-DIACETATE	Root	--	--		Jim Duke's personal files.
0	TETRADECA-TRANS-4-TRANS-6-TRANS-12-TRIENE-8,10-DIYNE-1,3-DIOL-DIACETATE	Root	--	--		Jim Duke's personal files.
31	THIAMIN	Root	1	11	0.384789019052169	
0	THIAMINE	Root	2.6	11	1.3683576310645862	
4	THREONINE	Root	260	1300	-0.7216409513599528	USDA's Ag Handbook 8 and sequelae)
1	TIGLIC-ACID	Plant	--	--		
4	TIN	Root	5	21	0.4588256824495934	
12	TRACHEOGENIN	Fruit	--	--		Jim Duke's personal files.
12	TRACHEOGENIN	Plant	--	--		
0	TRIDECA-1-ENE-3-5-7-9-11-PENTAYNE	Root	1	1	-1.0644228771428472	Jim Duke's personal files.
0	TRIDECA-1-11-DIENE-3-5-7-9-TETRAYNE	Root	1	2	-0.6284867817517097	
0	TRIDECA-1-TRANS-11-DIENE-3,5,7,9-TETRAYNE	Root	--	--		Jim Duke's personal files.

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	TRIDECA-1-TRANS-3-TRANS-11-TRIENE-5,7,9-TRYNE	Root --	--			Jim Duke's personal files.
29	TRYPTOPHAN	Root 60	300	-1.7641966493136618	USDA's Ag Handbook 8 and sequelae)	
8	TYROSINE	Root 180	900	-1.7927983636148572	USDA's Ag Handbook 8 and sequelae)	
3	VALINE	Root 330	1650	-1.4093638383718028	USDA's Ag Handbook 8 and sequelae)	
0	WATER	Leaf 730000	738000	-0.3474211280143851	Wealth of India.	
0	WATER	Root --	765000	-0.02778414569046033		
77	ZINC	Root 0.5	2.2	-0.9625912271962561		